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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,396	07/18/2005	Takashi Oogawara	264030US3X PCT	2991
22850	7590	11/19/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.			SORKIN, DAVID L.	
1940 DUKE STREET				
ALEXANDRIA, VA 22314			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			11/19/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/519,396	<b>Applicant(s)</b> OOGAWARA ET AL.
	<b>Examiner</b> DAVID L. SORKIN	<b>Art Unit</b> 1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 11 November 2009.

2a) This action is FINAL.      2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4,5,13-16 and 18 is/are pending in the application.

4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4,5 and 18 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date \_\_\_\_\_

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_

5) Notice of Informal Patent Application

6) Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11 November 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 2, 4, 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cottell (US 3,715,104) in view of Muller (US 2,615,692). Regarding claim 1, Cottell ('104) discloses an apparatus comprising a vessel (3) having a recess (that in which 10 is inserted) formed to a bottom portion thereof; a vibrator (2,9) disposed in the vessel and having at least one surface with a predetermined area contacting the mixture components; a high-frequency vibration generator (1) connect to the vibrator, for vibrating the vibrator at high frequency in a direction perpendicular to said surface; and a reflector (10) detachably (see col. 4 lines 52-55) disposed in the recess of the bottom portion of the vessel, said reflector being arranged with a space

from the vibrator at a small distance; and a drain pipe (5); wherein the reflector is provided with a perforation through the center area of the reflector and through the bottom portion of the vessel (see Figs. 2 and 4). A numerical value for the distance between the vibrator and the reflector is not provided by Cottell; however statement such as "spacing...is determined by micrometric thread" and "they are quite close together" (col. 5, lines 46-51) would have suggested that they are 10mm or less apart to one of ordinary skill in the art. Cone shaped pits are not disclosed. Muller ('692) teaches providing a vibrator with cone shaped pits (5). It would have been obvious to one of ordinary skill in the art to have provided the vibrator of Cottell ('104) with cone shaped pits as taught by Muller ('692) to achieve the benefit of "extremely intense" mixing (see col. 2, lines 25-45). Regarding claim 2, the vibrations are ultrasonic (see col. 5, lines 27-30). Regarding claim 4, the vibration generator may be piezoelectric or magnetostrictive (see col. 5, lines 5-15). Regarding claim 5, the vibrator has a surface section, and the reflector has a surface second facing the surface section of the vibrator (see Fig. 2), and at least one of these surface sections contains a hard material (see col. 1, lines 40-45). Regarding claim 18, Cottell ('104) discloses an apparatus comprising a vessel (3); a vibrator (2,9) disposed in the vessel and having at least one surface with a predetermined area contacting the mixture components; a high-frequency vibration generator (1) connect to the vibrator, for vibrating the vibrator at high frequency in a direction perpendicular to said surface; and a reflector (10) detachably (see col. 4 lines 52-55) disposed on a bottom portion of the vessel, said reflector being arranged with a space from the vibrator at a small distance; and a drain pipe (5);

wherein the reflector is provided with a perforation through the center area of the reflector and through the bottom portion of the vessel (see Figs. 2 and 4). A numerical value for the distance between the vibrator and the reflector is not provided by Cottell; however statement such as "spacing...is determined by micrometric thread" and "they are quite close together" (col. 5, lines 46-51) would have suggested that they are 10mm or less apart to one of ordinary skill in the art. Cone shaped pits are not disclosed. Muller ('692) teaches providing a vibrator with cone shaped pits (5). It would have been obvious to one of ordinary skill in the art to have provided the vibrator of Cottell ('104) with cone shaped pits as taught by Muller ('692) to achieve the benefit of "extremely intense" mixing (see col. 2, lines 25-45).

***Response to Arguments***

4. Applicant correctly points out that Cottell does not disclose a numerical value for the spacing distance. Instead Cottell states "The spacing of the two plates is determined by micrometric threaded feed 7, which also shows in FIG. 4. The actual spacing of the plates 9 and 10 is shown somewhat exaggerated, and actually they are quite close together" (col. 5, lines 46-51). This would have overwhelmingly suggested less than 10mm to one of ordinary skill in the art. See also *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955) regarding the obviousness of selecting a size.
5. Contrary to applicant's remarks, Muller, as seen in Fig. 1, does disclose cone shaped pits opposite a reflector surface.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L. SORKIN whose telephone number is (571)272-1148. The examiner can normally be reached on Mon.-Fri. 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L. SORKIN/  
Primary Examiner, Art Unit 1797